

WHAT IS CLAIMED IS

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1. A channel structuring method of composing a downlink channel by modulating a transmission signal by an orthogonal frequency division multiplexing method with n subcarriers, and multiplexing by a time division multiplex, wherein

the channel structuring method comprises a step of inserting a common control channel signal and a common pilot signal into said n subcarriers.

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2. A channel structuring method as claimed in claim 1, comprising:

a step of providing time frames by segmenting a communication channel of said n subcarriers at every predetermined interval, and

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a step of selecting a predetermined number of subcarriers from said n subcarriers, and periodically inserting the common control channel signal and the common pilot signal into every time frame of said selected subcarriers.

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3. A channel structuring method as claimed in claim 2 wherein, in regard to the common control channel signal and the common pilot signal periodically inserted into every time frame of said selected subcarriers, either the common control channel signal or the common pilot signal, or both thereof, is/are inserted at the same timing as either the common control channel signal or the common pilot signal, or both thereof of other subcarriers.

4. A channel structuring method as claimed in claim 1, comprising:

5 a step of providing time frames by segmenting a communication channel of said n subcarriers at every predetermined interval,

10 a step of selecting a predetermined number of subcarriers from said n subcarriers, and inserting the common control channel signal continuously into the time frame of said selected subcarriers, and

15 a step of selecting a predetermined number of subcarriers from said n subcarriers, and inserting the common pilot signal periodically into every time frame of said selected subcarriers.

5. A channel structuring method as claimed in claim 1, comprising:

20 a step of providing time frames by segmenting a communication channel of said n subcarriers at every predetermined interval,

25 a step of selecting a predetermined number of subcarriers from said n subcarriers, and inserting the common pilot signal continuously into the time frame of said selected subcarrier, and

30 a step of selecting a predetermined number of subcarriers from said n subcarriers, and inserting the common control channel signal periodically into every time frame of said selected subcarriers.

6. A channel structuring method as claimed in claim 4 or 5, wherein subcarriers into which said common control channel signal is inserted are either completely or partially the same as the subcarriers into which the common

pilot signal is inserted.

7. A channel structuring method as claimed in claim 1, comprising:

5 a step of providing time frames by segmenting a communication channel of said n subcarriers at every predetermined interval,

a step of selecting a predetermined number of subcarriers from said n subcarriers, and inserting the common control channel signal continuously into the time frame of said selected subcarriers, and

10 a step of selecting a predetermined number of subcarriers from said n subcarriers, and inserting the common pilot signal continuously into the time frame of said selected subcarriers.

8. A base station which structures a downlink channel by modulating a transmission signal by an orthogonal frequency division multiplexing method with n subcarriers, and multiplexing by a time division multiplex, comprising:

20 common channel signal insertion means for inserting a common control channel signal into all or part of said n subcarriers, and

pilot signal insertion means for inserting a common pilot signal into all or part of said n subcarriers.

9. A base station as claimed in claim 8, wherein time frames are provided by segmenting a communication channel of said n subcarriers at every predetermined interval, and

30 said common control channel signal insertion means selects a predetermined number of subcarriers from said n subcarriers, and inserts the common control channel

signal periodically into every time frame of said selected subcarriers.

10. A base station as claimed in claim 8 or 9,
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time frames are provided by segmenting a communication channel of said n subcarriers at every predetermined interval, and

said common pilot signal insertion means selects
10 a predetermined number of subcarriers from said n subcarriers, and inserts the common pilot signal periodically into every time frame of said selected subcarriers.

11. A base station as claimed in claim 9, wherein
15 said common pilot signal insertion means selects a predetermined number of subcarriers from said n subcarriers and inserting the common pilot periodically into every time frame of said selected subcarriers, and

20 said common control channel signal insertion means and said common pilot signal insertion means insert the common control channel signal and the common pilot signal, respectively, into said selected subcarriers such that a timing of the insertion of either the common control
25 channel signal or the common pilot signal, or both, are same as the timing of either the common control channel signal or the common pilot signal, or both, of other subcarriers.

12. A base station as claimed in claim 8, wherein
30 time frames are provided by segmenting a communication channel of said n subcarriers at every predetermined interval,

said common control channel signal insertion

means selects a predetermined number of subcarriers from said n subcarriers, and inserts the common control channel signal continuously into every time frame of said selected subcarriers, and

5 said common pilot signal insertion means selects a predetermined number of subcarriers from said n subcarriers, and inserts the common pilot signal periodically into every time frame of said selected subcarriers.

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13. A base station as claimed in claim 8, wherein time frames segmented in the communication channel of said n subcarriers at every predetermined interval are set up,

15 said common pilot signal insertion means selects a predetermined number of subcarriers from said n subcarriers, and inserts the common pilot signal continuously into every time frame of said selected subcarriers, and

20 said common control channel signal insertion means selects a predetermined number of subcarriers from said n subcarriers, and inserts the common control channel signal periodically into every time frame of said selected subcarriers.

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14. A base station as claimed in claim 12 or 13, wherein

30 the subcarriers into which said common control channel signal is inserted by said common control channel signal insertion means are completely or partially the same as the subcarriers into which the common pilot signal is inserted by said common pilot signal insertion means.

